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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,431	03/19/2004	Xinbing Liu	MATB-404US	7208

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EXAMINER	
MOORE, KARLA A	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/804,431	LIU, XINBING	
	Examiner	Art Unit	
	Karla Moore	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) *38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,869,778 to Cote in view of "Three-Dimensionally Ordered Array of Air Bubbles in a Polymer Film" by Srinivasarao et al. and U.S. Patent No. 2,530,436 to Maleyre.

3. Cote discloses a micro-cavity forming system substantially as claimed and comprising: a coating station (Figure 1, 14) receiving a substrate (12) from a substrate source and applying a polymer coating to the substrate; a mask forming station (25) receiving the coated substrate from the coating station and creating a mask; an etching station (27) receiving the substrate, as coated with the mask, from the masking-forming station and etching through holes in the mask to form microcavities in the substrate; and a stripping station (45) receiving the substrate from the etching station and removing residuals, leaving the substrate with microcavities.

4. However, Cote fails to teach that the mask forming station functions to blow moist air over the coated substrate to form air bubbles which result in holes in the polymer coating, thereby creating a mask.

5. Srinivasarao et al. disclose a method for forming holes in a polymer layer comprising using a mechanism for blowing moist air over a polymer film to form air bubbles which result in holes for the purpose of obtaining a patterned film comprising ordered macroporous assemblies that are 3D in nature and created using rather simple polymers (abstract and final paragraph).

6. It would have been obvious to one of ordinary skill in the art to have provided a mask-forming station comprising a mechanism for blowing moist over the coated polymer layer in Cote for the purpose

of obtaining a patterned film comprising ordered macroporous assemblies that are 3D in nature and created using rather simple polymers as taught by Srinivasarao et al.

7. Cote and Srinivasarao et al. disclose the invention substantially as claimed and as described above.

8. However, Cote and Srinivasarao et al. fail to explicitly teach that the system is capable of processing wire substrates, for example, one having a polymer coating having an outer surface encircling the wire or one having a coating with holes substantially evenly distributed over the outer surface, thereby creating a mask.

9. Maleyre disclose a system for treating both strip and wire substrates. The system for can be easily adapted for processing wire substrates by providing grooves in the wheels used for guiding purposes (column 3, rows 13-15).

10. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a modified treating system for processing wire substrates in Cote by simply modifying guidance wheels with grooves as taught by Maleyre.

11. Examiner notes that the courts have ruled that inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims. In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). The courts have also ruled expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

12. With respect to claim 2, which is drawn solely to the article to be processed, the courts have ruled that inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims. In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

13. With respect to claims 3-6, Cote discloses the coating station comprises a tank (21) housing a solution of the polymer. Srinivasarao et al. disclose that the polymer must be provided in a fast-

evaporating solvent (page 80, second full paragraph) and each of the other apparatus contents (non-structural) related recitations set forth in claims 3-6. Examiner notes that the courts have ruled that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

14. With respect to claim 7, the mask forming station comprises a chamber (25, 26) defining a controlled atmosphere through which the substrate travels.

15. With respect to claim 8, which is drawn to a processing parameter that to be chosen based on an intended method of using the apparatus, the courts have ruled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

16. With respect to claim 9, the etching station comprises a container (34) retaining the etching bath.

17. With respect to claim 10, which is also drawn to materials to be used during an intended used of the apparatus, as expressed above, the courts have ruled that expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

18. With respect to claim 11, the stripping station comprises an enclosure (58) for containing a solvent bath.

Allowable Subject Matter

19. Claim 38 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails teach or fairly suggest a masking station that is part of an apparatus for processing wires. The apparatus also comprising a coating station and an etching station and the mask-forming station comprising a chamber capable of creating a controlled atmosphere, a blower capable of blowing moist air

and a rotating means capable of rotating the wire to be processed. Further, not other properly combinable art was located that provided the missing teachings.

Response to Arguments

20. Applicant's arguments filed 26 June 2006, regarding claims 1-11, have been fully considered but they are not persuasive.

21. Applicant's arguments regarding claims 1-11 are not convincing because the amended language (additional recitations) of claim 1 that Applicant argues are distinguishing are based on an intended use of a claimed apparatus and/or properties of an item worked upon by the apparatus. However, as noted above, the courts have ruled that these are not factor for determining patentability in apparatus claims. 3

22. It is also pointed out that the added claim language which recites "holes substantially evenly distributed over the outer surface" was not interpreted as "holes substantially evenly distributed over 'the entire' surface", as this would not be the broadest reasonable interpretation of the recitation.

23. Further, Examiner realizes that Srinivasarao fails to explicitly teach the method is capable of being applied to wire substrates. However, it must be realized that the rejection is based on what the teachings of the prior art would suggest to one of ordinary skill in the art. One of ordinary skill in the art would recognize that the disclosed method could be adapted to process wire substrates, as needed or desired. The courts have ruled that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karla Moore
Primary Examiner
Art Unit 1763
5 September 2006